

## REMARKS

### I. Introduction

In response to the Office Action dated February 24, 2004, claims 6 and 7 have been cancelled, claims 1-5, 8, 9, 11, 12, 18, 26 and 47-50 have been amended, and claims 65 and 66 have been added. Claims 1-5, 8, 9, 11, 12, 18, 26, 47-50 and 64-66 remain in the application. Re-examination and re-consideration of the application, as amended, is requested.

### II. Claim Objections

In response to the Examiner's comments, Applicants' attorney has amended the claims to recite the appropriate SEQ ID NOs associated with the claimed sequences.

### III. Claim Amendments

Applicants' attorney has made amendments to the claims as indicated above. In order to facilitate prosecution, comments on a number of these amendments and an identification of the specification's support thereof is provided below.

First, Applicants' attorney notes that the original claims followed a format where the terms "Streptococcus Pyogenes" were underlined (i.e. Streptococcus Pyogenes). Applicants' attorney believes that this original format is confusing in view of the United States Patent and Trademark Office rules that require language added to a claim to be underlined. Therefore, in the amendments herein, these originally underlined terms are deleted in all claims as indicated by a strikethrough (~~Streptococcus pyogenes~~) and replaced with the same terms in a format that will not be underlined in the ultimate claim language (but which are underlined for the instant amendment so that they are in accordance with the United States Patent and Trademark Office rules regarding language added to a claim). Applicants' attorney sincerely apologizes for any confusion caused by the original format and hopes that these amendments will at least avoid any confusion from this point forward.

Claim 1 has been amended in view of a number of the Examiner's comments in the instant Office Action. In doing so, claim 1 is now focused on two closely related embodiments of the invention that are explicitly described in the specification. In particular, as noted in the specification, the Streptococcus Pyogenes DNase B gene encodes a 271 amino acid polypeptide (e.g. as shown in Figure 3, SEQ ID NO: 8) which includes a 43 amino acid leader peptide at its amino terminus (SEQ

ID NO: 1, see, e.g. page 6, lines 24-28). In *Streptococcus Pyogenes* bacteria, this 271 amino acid polypeptide is processed to remove this leader peptide, thereby generating a 228 amino acid mature protein having an N-terminal sequence: Q<sub>44</sub>-T<sub>45</sub>-Q<sub>46</sub>-V<sub>47</sub>- etc. (see, e.g. page 17, lines 20-26 and page 43, lines 8-17). The specification teaches that some cloning techniques result in the production of a *Streptococcus Pyogenes* DNase B enzyme which includes at its amino terminus an arginine (i.e. R<sub>43</sub>) residue derived from the leader peptide and absent in the natural DNase B enzyme (see, e.g. Example 4, page 46, lines 8-14; and Figure 4, SEQ ID NO: 9). The specification further teaches how artisans may generate genetic constructs which produce a recombinant DNase B enzyme that is identical to the fully processed DNase B that is produced by *Streptococcus Pyogenes* bacteria (see, e.g. Example 12, page 55, lines 20-28). Specific support for *Streptococcus Pyogenes* DNase B enzyme optionally including at least one residue of the leader peptide (e.g. arginine (R<sub>43</sub>)) is found at page 5, lines 4-16. In this context, by reciting a DNA encoding (i) the amino acid sequence of Figure 4 characterized in that the optional arginine (R) at the amino terminus is present; and (i) the amino acid sequence of Figure 4 characterized in that the optional arginine (R) at the amino terminus is absent, claim 1 has been amended hereinabove to focus on these two recombinant embodiments of DNase B that are explicitly disclosed in the specification. In addition, in accordance with the Examiner's comments, the terms "functional equivalent" have been deleted from claim 1 and all other claims.

In response to the Examiner's comments regarding "S. pyogenes promoters of undefined structure" at page 3 of the outstanding Office Action, claims 47 and 50 have been amended to recite a promoter of SEQ ID NO: 10 originally associated with the *Streptococcus pyogenes*. Support for these amendments is found for example in Example 9, page 52, lines 1-7.

#### IV. Non-Art Rejections

In paragraph (2) of the Office Action, claims 1-2, 4, 6-8, 11, 18, 26, and 47-50 were rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. In paragraph (3) of the Office Action, claim 1 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

Applicants regard as the invention. In paragraph (4) of the Office Action, claim 50 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In paragraph (5) of the Office Action, claim 50 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Applicants have cancelled claims 6 and 7 and amended claims 1-2, 4, 8, 11, 18, 26 and 47-50 to overcome these rejections. Applicants' amendments, without prejudice and without acquiescence to the Examiner's rejections, renders the rejections moot.

V. Prior Art Rejections

In paragraph (6) of the Office Action, claims 1-2, 4, 6-8, 11, 18, 26, and 47-50 were rejected under 35 U.S.C. §102(b) as being anticipated by Frenz et al., U.S. Patent No. 5,279,823. In paragraph (7) of the Office Action, claim 26 was rejected under 35 U.S.C. §102(e) as being anticipated by Birkett et al., U.S. Patent No. 5,302,527 (Birkett). However, on page (7) of the Office Action, claims 3, 5, 9, and 12 were objected to for depending upon a rejected base claim, however, claims 3, 5, 9, and 12 are free of the prior art of record.

Applicants have cancelled claims 6 and 7 and amended claims 1-2, 4, 8, 11, 18, 26 and 47-50 to overcome these rejections. Applicants' amendments, without prejudice and without acquiescence to the Examiner's rejections, renders the rejections moot.

VI. Conclusion

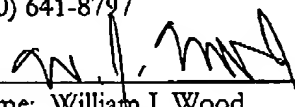
In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited. Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicants' undersigned attorney.

Respectfully submitted,

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